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## Acute Coronary Syndromes

### THE CLINICAL IMPLICATIONS AND PREDICTORS OF NO REFLOW PHENOMENON IN CONTEMPORARY PCI: INSIGHTS FROM BLUE CROSS BLUE SHIELD OF MICHIGAN CARDIOVASCULAR COLLABORATIVE BMC2

Poster Contributions

Poster Sessions, Expo North

Sunday, March 10, 2013, 9:45 a.m.-10:30 a.m.

Session Title: ACS Therapy: No Reflow and Improving Outcomes

Abstract Category: 3. Acute Coronary Syndromes: Therapy

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**Background:** No reflow (NR) phenomenon has been associated with poor outcomes in patients undergoing percutaneous coronary intervention (PCI) in older studies. It is unclear if changes in pharmacotherapy and devices have impacted on the occurrence of NR in contemporary practice.

**Methods:** We examined the incidence, implications and predictors of NR among 73,083 patients who underwent PCI between 01/2010 and 03/2012 at 44 centers in Michigan. NR was operator reported as transient impaired flow after ballooning or stenting in the treated vessel.

**Results:** NR occurred in 0.8% (632/73083) of patients and was more frequent in acute coronary syndrome-PCI than elective PCI (1.0% vs. 0.76%, respectively,  $p < 0.001$ ). Patients who developed NR were more likely to die (6.3% vs 1.4%,  $p < 0.001$ ) or develop heart failure (9.0% vs. 2.3%,  $p < 0.001$ ). Covariates in the multivariate model were chosen based upon review of univariately significant predictors of NR. Independent predictors of NR ( $p < 0.05$ ) were age  $\geq 70$ , PCI in a vein graft and ST elevation myocardial infarction (STEMI) PCI, as well as lesion characteristics such as lesion length  $\geq 20$ mm, presence of thrombus, complex Type C lesions and any residual stenosis. In STEMI PCIs, primary ( $< 12$  hrs) PCI more than halved the odds of NR than non-primary PCI in STEMI patients (such as rescue PCI). (OR = .441,  $p < .001$ , 95% CI: .301-.645).

**Conclusion:** NR is a rare complication of PCI occurring in  $< 1\%$  of patients and is associated with a markedly exaggerated early mortality after PCI.

	Odds Ratio	p-value	95% CI
Age $> 70$	1.284	0.02202	1.037-1.590
Lesion length $> 20$ mm	1.494	0.00468	1.131-1.973
Residual Stenosis	1.638	0.00002	1.310-2.050
High complexity/Type C lesion	1.767	0.00003	1.297-2.407
Presence of Thrombus	3.202	$< 0.00001$	2.581-3.971
Lesion in Vein Graft	4.050	$< 0.00001$	2.764-5.934